Appl. No. 10/708,765
Amdt. dated November 09, 2005
Reply to Office action of September 01, 2005

REMARKS/ARGUMENTS

1. Rejection of claims 1-4, 8-10, 12, 14, and 16-19 under 35 U.S.C. 112, second paragraph:

     The term "index parameter" in claims 1-4, 8, 10, 14, and 16-18 is a relative term,

5   which renders the claims indefinite.

     The term "fixed-point architecture" in claims 9 and 17 is a relative term, which renders the claims indefinite.

     Claim 12 recites the limitation "the threshold value is programmable". There is insufficient antecedent basis for this limitation in the claim.

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Response:

     Claims 1 and 14 and paragraph 0018 of the specification have been amended to define the term "index parameter". The index parameter is a ratio of driving pulses output by the controller to the corresponding displacement that the step motor will move.

15   Therefore, when utilizing the controller for outputting a control signal to the stepping motor according to a target displacement and a first index parameter, the target displacement is multiplied by the first index parameter for calculating a total number of driving pulses required to achieve the target displacement. With the amendments to claims 1, 14, and the specification, the applicant believes that the term "index parameter"

20   is now sufficiently defined to clear up any indefinite language in the claims.

     Claim 9 has been cancelled, and is no longer in need of consideration. The term "fixed-point architecture" has been removed from claim 17.

25   Claim 12 has been amended to depend on claim 2 instead of claim 1.

     In view of these amendments to the claims, the applicant believes that all claims now

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distinctly claim the invention. Reconsideration of claims 1-4, 8, 10, 12, 14, and 16-19 is
respectfully requested.

2. Rejection of claims 1-3, 12, 14, and 15 under 35 U.S.C. 103(a):

5   Claims 1-3, 12, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable
over Baur (US 4,949,027) in view of Kao (DE 424068).

Response:

       The applicant would like to point out how independent claims 1 and 14 are

10   patentably distinct from the cited prior art. With the term "index parameter" now properly
defined in claims 1 and 14, it becomes clear that Baur and Kao do not teach all of the
claimed limitations. Specifically, the prior art combination does not teach the limitation of
"utilizing the controller for generating a second index parameter according to the first
index parameter, the difference, and the actual displacement."

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       Baur teaches detecting a difference between a detected lead angle and a desired
angle, and thereafter generating additional control pulses to eliminate the angle difference.
However, Baur does not teach recalibrating the index parameter as does the present
invention. Baur accepts that there is a calibration error, and uses the additional control

20   pulses to correct for the error. However, the claimed invention attempts to recalibrate the
index parameter, for achieving greater accuracy without the need for frequent adjustments
every time the step motor is used.

       Kau also does not teach redefining the index parameter, and only teaches calibration

25   by resetting a control value that is used to keep track of the actual position of the step
motor. Once the difference between the control value and the actual position is greater
than a threshold, the control value is adjusted to more accurately reflect the actual
position. However, Kao does not teach generating a second index parameter according to

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the first index parameter, the difference, and the actual displacement.

Therefore, the applicant submits that independent claims 1 and 14 are patentably

distinct from the cited prior art. Claims 2-8, 10-13, and 15-19 are dependent on claims 1

5 　and 14, and should be allowed if claims 1 and 14 are allowed. Reconsideration of claims

1-8 and 10-19 is therefore respectfully requested.

3. Rejection of claims 5-7 under 35 U.S.C. 103(a):

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baur (US

10 　4,949,027) in view of Kao (DE 424068) and further in view of Nazarian et al (US

4,685,007).

Response:

Claims 5-7 are dependent on claim 1, and should be allowed if claim 1 is allowed.

15 　Reconsideration of claims 5-7 is respectfully requested.

4. Rejection of claim 13 under 35 U.S.C. 103(a):

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baur (US

4,949,027) in view of Kao (DE 424068) and further in view of Kobayashi et al (US

20 　6,911,800, hereinafter referred to as Kobayashi).

Response:

Claim 13 is dependent on claim 1, and should be allowed if claim 1 is allowed.

Reconsideration of claim 13 is respectfully requested.

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5. Introduction to new claims 20 and 21:

New claims 20 and 21 are drafted using limitations previously found in clams 4 and

16, respectively. In effect, original claim 4 has been split into claims 4 and 20 and original
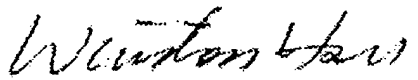
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claim 16 has been split into claims 16 and 21. None of the cited prior art teaches the limitations contained in any of the claims 4, 16, 20, or 21. Acceptance of new claims 20 and 21 is respectfully requested.

5   In view of the above statements in favor of patentability, the applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Sincerely yours,

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Winston Hsu   Date: ___November 09, 2005___

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